AMENDED CLAIMS

1. (Amended) A polynucleotide comprising a non-naturally occurring HCV sequence that is capable of productive replication in a host cell, or is capable of being transcribed into a non-naturally occurring HCV sequence that is capable of productive replication in a host cell, wherein the HCV sequence comprises, from 5′ to 3′ on the positive-sense nucleic acid, a functional 5′ non-translated region (5' NTR); one or more protein coding regions, including at least one polyprotein coding region that is capable of replicating HCV RNA; and a functional HCV 3′ non-translated region (3' NTR) and wherein said polypeptide further comprises an adaptive mutation.

3. (Amended) The polynucleotide of claim 1, having a transfection efficiency into mammalian cells of greater than 0.01%.

7. (Amended) The polynucleotide of claim 1, wherein the polynucleotide is capable of replication in a non-hepatic cell.

9. (Amended) The polynucleotide of claim 1, wherein the HCV is impaired in its ability to cause disease, establish chronic infections, trigger autoimmune responses, and transform cells.

10. (Amended) The polynucleotide of claim 1, wherein the polyprotein region comprises an NS5A gene that is not a wild-type NS5A gene.

29. (Amended) The polynucleotide of claim 1, wherein the transfection efficiency into mammalian cells is about 6%

65. (Amended) The vector of claim 64, wherein the adaptive mutation comprises a mutation in the NS5A gene.